

CLAIMS

What is claimed is:

- 1 1. A method comprising:
2 partitioning a non-volatile storage media;
3 storing data in a first partitioned section of the non-volatile storage media;
4 and
5 storing, in a second partitioned section of the non-volatile storage media,
6 metadata corresponding to the data stored in the first partitioned section of the non-
7 volatile storage media.
- 1 2. The method of claim 1, wherein storing the metadata as packed
2 metadata block.
- 1 3. The method of claim 1, wherein the partitioning is logical.
- 1 4. The method of claim 1, wherein storing cache data in the first
2 partitioned section.
- 1 5. The method of claim 4, further comprising:
2 updating the data and metadata atomically when a line of cache data in the
3 first partitioned section is changed.
- 1 6. The method of claim 1, further comprising:
2 allocating a portion of a mass storage device as the non-volatile storage
3 media.
- 1 7. A non-volatile memory comprising:

2 a first section to store data; and
3 a second section partitioned from the first section, the second section to
4 store metadata for the data stored in the first section.

1 8. The memory of claim 7, wherein the second section is to store the
2 metadata as packed metadata blocks.

1 9. The memory of claim 7, wherein the partitioning of the first section
2 and the second section is logical.

1 10. The memory of claim 7, wherein the non-volatile memory is a portion
2 of a massive storage device.

1 11. The memory of claim 10, wherein the mass storage device is one of a
2 disk drive, a Flash memory, a ferroelectric random access memory, or a polymer
3 ferroelectric random access memory.

1 12. The memory of claim 7, wherein the non-volatile memory is a cache
2 memory.

1 13. A system comprising:
2 a non-volatile storage media having a first section and a second section
3 partitioned from the first section; and
4 a memory control hub to cause the first section to store data and the second
5 section to store metadata for the data stored in the first section.

1 14. The system of claim 13, wherein second section is to store the
2 metadata as packed metadata blocks.

1 15. The system of claim 13, wherein the partition is logical.

1 16. The system of claim 15, further comprising a massive storage device
2 and wherein a portion of the massive storage device is the non-volatile storage
3 media.

1 17. The system of claim 13, wherein the non-volatile storage media is a
2 cache memory.

1 18. A method comprising:
2 partitioning a non-volatile storage media;
3 storing cache data in a first partitioned section of the non-volatile storage
4 media;
5 storing metadata corresponding to the cache data in a second partitioned
6 section of the non-volatile storage media; and
7 accessing the second partitioned section to determine the state of the cache
8 data in a system boot.

1 19. The method of claim 18, wherein storing the metadata in the second
2 partitioned section as packed metadata blocks.

1 20. The method of claim 18, wherein the partition is logical.

1 21. The method of claim 18, further comprising:
2 updating the cache data and metadata atomically when a line of cache data
3 in the first partitioned section is changed.

1 22. A program loaded in a computer readable medium comprising:

2 a first group of computer instructions to logically partition a non-volatile
3 storage media;
4 a second group of computer instructions to store data in a first partitioned
5 section of the non-volatile storage media; and
6 a third group of computer instructions to store metadata for the data in a
7 second partitioned section of the non-volatile storage media.

1 23. The program of claim 22, wherein the second group of computer
2 instructions include computer instructions to store the metadata as packed
3 metadata blocks.

1 24. The program of claim 22, wherein the second group of computer
2 instructions include computer instructions to store cache data as the data in the first
3 partitioned section.

1 25. The program of claim 24, further comprising:
2 computer instructions to update the data and metadata atomically when a
3 line of cache data in the first partitioned section is changed.

1 26. The program of claim 24, further comprising:
2 computer instructions to access a line of the second partitioned section to
3 read metadata for the cache data in the first partitioned section.

1 27. A program loaded in a computer readable medium comprising:
2 a first group of computer instructions to logically partition a non-volatile
3 storage media;
4 a second group of computer instructions to store cache data in a first
5 partitioned section of a non-volatile storage media;

6 a third group of computer instructions to store, in a second partitioned
7 section of the non-volatile storage media, metadata corresponding to the cache
8 data stored in the first partitioned section; and
9 a fourth group of instructions to access the second partitioned section to
10 determine the state of the cache data.

1 28. The program of claim 27, wherein the third group of computer
2 instructions includes computer instructions to store the metadata as packed
3 metadata blocks.

1 29. The program of claim 27, further comprising:
2 computer instructions to update the cache data and metadata atomically
3 when a line of cache data in the first partitioned section is changed.

1 30. The program of claim 27, further comprising:
2 computer instructions to allocate a portion of a mass storage device as the
3 non-volatile storage media.

1 31. A system boot comprising:
2 accessing a first partitioned section of a non-volatile cache memory to read
3 metadata for cache data stored in a second partitioned section of the non-volatile
4 cache memory; and
5 determining the state of the cache data based upon the read metadata to
6 initialize the non-volatile cache memory for the system boot.

1 32. The system boot of claim 31, wherein the metadata is stored in the
2 first partitioned section as packed metadata blocks.

1 33. The system boot of claim 31, wherein the non-volatile cache memory
2 is logically partitioned into the first and second partitioned sections.

1 34. The system boot of claim 31, further comprising: allocating a portion
2 of a mass storage device as the non-volatile cache memory.

1 35. The system boot of claim 34, wherein the mass storage device is one
2 of a disk drive, a Flash memory, a ferroelectric random access memory, or a
3 polymer ferroelectric random access memory.

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